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curate and satisfactory results, perhaps even more so than the common form of barometer, but that there is considerable uncertainty attached to its indications. This uncertainty, far from being wholly attributable to the imperfections of the instrument as a measure of the atmospheric pressure, might, the author thinks, arise from an extreme susceptibility to rapid changes in that pressure, which remain unindicated by the more sluggish barometer.

“On the Decomposition and Analysis of the Compounds of Ammonia and Cyanogen.” By Robert Smith, Esq., Ph. D. Communicated by Captain William Henry Smyth, R.N., F.R.S.

This paper is divided into four parts; the first relates to the decomposition of ammonia and its compounds by the compounds of chlorine, and the collection and measurement of the nitrogen gas which is disengaged, the amount of which the author considers as furnishing a ready and accurate mode of estimating the quantity of ammonia in the solution subjected to analysis. The chloride of lime was the salt usually employed for this purpose: this method is regarded by the author as being peculiarly applicable to the analysis of organic substances.

The second part treats of the decomposition and estimation of hydrocyanic acid and its compounds by means of chloride of lime, yielding nitrogen gas and carbonate of lime; a process which occupies but a few seconds. In some cases, the employment of chloride of soda is preferable to that of chloride of lime, on account of the solubility of all the compounds that are formed. The author found the same method applicable also to the analysis of the salts of cyanogen; for the cyanides of the alkalis are decomposed by it as rapidly as the pure acid itself. The ferro-cyanides are also very readily decomposed.

The author, in the third part of his paper, relates the results of his trials of the hypochlorites as agents for the decomposition of uric acid, which proved so satisfactory as to induce him to believe that these salts might be advantageously used as solvents of uric calculi in the living bladder. He also proposes the employment of chloride of lime as a ready and accurate mode of estimating the quantity of nitrogen contained in urine, from the amount of gas disengaged by its action on the nitrogenous compounds. In the last part, the apparatus used in the experiments is described.

“On a point connected with the dispute about the invention of Fluxions.” By Augustus De Morgan, Esq., M.A., F.R.A.S., &c. Communicated by Samuel Hunter Christie, Esq., Sec. R.S., &c.

An assertion made by Sir Isaac Newton in a letter to Conti, published in Raphson's History of Fluxions, that the materials of the *Commercium Epistolicum* were “collected and published by a numerous Committee of gentlemen of different nations, appointed by the Royal Society for that purpose,” appeared to be at variance with the list of the Committee as it was appointed on the 6th of March, 1711-12, and which only contains the names of Arbuthnot, Hill, Halley, Jones, Machin and Burnet, who were all English. But on

further search of the records of the Society with the aid of Mr. Weld, the Assistant Secretary, the author ascertained that other members were subsequently added to the Committee, among whom were Bonet, the Prussian minister, and De Moivre, both of whom were foreigners; thus showing that the imputations which might have been cast on Newton's veracity are groundless.

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February 5, 1846.

GEORGE RENNIE, Esq., Treasurer and V.P., in the Chair.

Samuel Cooper, Esq. was elected a Fellow of the Society.

"On the Secretary Apparatus and Function of the Liver." By C. Handfield Jones, M.D. Communicated by Sir Benjamin C. Brodie, Bart., F.R.S.

The author is led by his researches into the minute structure of the liver, to results which confirm the view of Mr. Bowman, in opposition to those of Mr. Kiernan on this subject; and particularly with regard to the absence of real tubercular ducts from the interior of the lobules. He concludes that the secreting process commences in the rows of epithelial cells surrounding the central axis of the lobule, and that the fluid there secreted is transmitted to the cells forming the margin of the lobule, where it is further elaborated, and, by the bursting of these cells, is conveyed into the cavity of the surrounding duct. A few diagrams are annexed, illustrative of the descriptions of microscopic structure given in the paper.

"An Account of some Experiments on the Electro-Culture of Farm Crops." By Mr. William Sturgeon. Communicated by S. Hunter Christie, Esq., Sec. R.S., &c.

Grass grown on a parallelogram of land, fifty-five yards long by twenty-two yards wide, enclosed by underground wires, was found to be much more abundant than in any other part of the field; especially in a plot "upwards of fifty yards long, whose breadth was within the wires, and nearly at right angles to the axis of the parallelogram." This plot of grass was principally on the western side of the wires, and extended but a very little way on the eastern side. The axis of the wire-enclosed parallelogram was in the magnetic meridian.

"On the Comet of 1844-45." By John Collingwood Haile, Esq. Communicated by Charles Terry, Esq., F.R.S.

The author gives a series of observations, accompanied by a diagram, made by him at Auckland, in New Zealand, on the comet of 1844-45, which there appeared on the 20th of December 1844 and disappeared on the 30th of January following, having been visible forty-two days. Its most remarkable feature was, that during its greatest brilliancy, the nucleus was not surrounded by the nebulous matter, but was situated at the very extremity of the head, and at times even appeared quite detached.